

claims 21-22, but does not clearly reject these claims and pointed out deficiencies in the Information Disclosure Statement. Claims 1-24 remain pending without amendment.

INFORMATION DISCLOSURE STATEMENT

In the Information Disclosure Statement section on page 2 of the Office Action of April 7, the Examiner contends that the information disclosure statement filed on December 21, 2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 6909. An additional Information Disclosure Statement has been filed with this reply.

CLAIM REJECTIONS – 35 USC § 112

In the Claim Rejections – 35 USC § 112 section on page 2 of the Office Action of April 7, 2003, the Examiner suggests that the terms “current pass” and “future pass” in claims 21-22 be clarified in the condition as a function of a maximum allowable profile deviation to make the claims concise and clear. Applicant respectfully declines this suggestion and traverses the rejection as the terms do not refer to a condition that defines the function of a maximum allowable profile deviation.

Applicant draws the Examiner’s attention to paragraph 34 on pages 7 and 8 of applicant’s specification:

In a fourth control block 608, an amount of compaction is controlled as a function of the profile deviation at the determined location. In one embodiment, the mobile machine 102 is the compactor 110 and the amount of compaction is controlled during the current pass in which the change in elevation is determined, i.e., in real time. In another embodiment, the mobile machine 102 is the compactor 110 and the amount of compaction is controlled during a future pass at the determined location. More specifically, the compactor 110 determines a change in elevation during a first pass, and controls the amount of compaction during a second pass. In yet another embodiment, the mobile machine 102 and the compactor 110 are separate machines, the mobile machine 102 determines a change in elevation, the information is delivered to the compactor 110, and the compactor responsively controls the amount of compaction at the determined location.

One of the definitions of the noun “pass” in Webster’s Dictionary is:

A sweep or run by an aircraft over an area or target.

One skilled in the art would understand that this definition has been expanded to mean a sweep or a run by a work machine over a work area. Applicant respectfully requests the

Examiner to reconsider the rejection given that the term is adequately defined in the specification and the art area.

CLAIM REJECTIONS – 35 USC § 102(b)

On page 3 of the Office Action of April 7, 2003, the Examiner rejected claims 1-4, 9-11, 13 and 20-22 under 35 USC § 102(b) as being anticipated by Corcoran. Applicant traverses the rejection as Corcoran does not teach, disclose or suggest all the claim limitations of the present invention.

Applicant's invention teaches a method and apparatus for determining a profile of a pavement. The method and apparatus includes determining a slope of a mobile machine as the mobile machine traverses the pavement, and determining a change in elevation of the pavement as a function of the slope and a distance from a first ground engaging member on the mobile machine to a second ground engaging member on the mobile machine, the change in elevation being indicative of a profile of the pavement. (specification abstract).

Corcoran teaches an apparatus and method to determine a condition of a road traversed by at least one load hauling machine including at least one parameter sensor adapted to sense a parameter of the load hauling machine and responsively deliver a parameter signal, and a control system adapted to monitor a condition of a plurality of tires and responsively generate a calibration signal. (Corcoran abstract).

Claims 1-4 and 20-22

Applicant's claim 1 contains the limitation of "determining a change in elevation of the pavement as a function of the angular slope and a distance from a first ground engaging member on the mobile machine to a second ground engaging member on the mobile machine, the change in elevation being indicative of a profile of the pavement." The Examiner contends that Corcoran teaches this limitation in figures 1 and 6, column 3, lines 36-57 and column 6, lines 17-34. Applicant respectfully disagrees.

Figure 1 of Corcoran is a diagrammatic illustration of a load hauling machine for determining a condition of a road traversed by at least one load hauling machine. The machine has a plurality of tires in contact with the road. (Corcoran column 2, lines 30-31 and lines 53-57). Although figure 1 shows a first ground engaging member and a second ground engaging member, it does not show any method.

Column 3, lines 36-57 teach a load hauling machine with a slope sensor, an acceleration sensor and a position sensor. Examples of an acceleration sensor are given. These include an accelerometer and a controller adapted to input position signals from a position sensor of the load hauling machine and determine the acceleration as a change in the rate of change of position. The claim 1 limitation of "determining a change in elevation of the pavement as a function of the angular slope and a distance from a first ground engaging member on the mobile machine to a second ground engaging member on the mobile machine, the change in elevation being indicative of a profile of the pavement." Is not taught in this section.

Corcoran calculates the motion resistance of a vehicle on a road as part of a method to determine road softness. (Corcoran column 4, lines 1-11). The machine motion resistance is calculated in part as a function of the slope resistance. (Corcoran column 6, lines 13-16). Figure 6 and the description of figure 6 in column 6, lines 17-34 discloses a method to calculate slope resistance. This method does not determine a change in elevation of the pavement as a function of the distance from a first ground engaging member to a second ground engaging member as in Applicant's claim 1 limitation. Rather, the method determines a first position of a road machine at a first time and a second position of the same road machine at a second time. In contrast, applicant's method determines positions of 2 ground engaging members at one time. Corcoran determines the slope of the portion of road between the two positions of the road machine at two different times, while applicant's method determines the slope of pavement between the two ground engaging members.

As Corcoran does not teach or disclose Applicant's claim 1 limitation of "determining a change in elevation of the pavement as a function of the angular slope and a distance from a first ground engaging member on the mobile machine to a second ground engaging member on the mobile machine, the change in elevation being indicative of a

profile of the pavement.”, the rejection is improper and should be withdrawn.

Claims 20-22 contain similar language to claim 1 and for similar reasons their rejection is improper. Claims 2-4 depend upon an allowable claim and thus are also allowable.

Claims 9-11 and 13

Claim 9 contains the limitation of “a controller located on the mobile machine for receiving a signal indicative of an angular slope from the slope determining system, and responsively determining a change in elevation of the pavement as a function of the angular slope and the distance between the first and second ground engaging members, the change in elevation being indicative of a profile of the pavement.” Corcoran does not teach or disclose this claim limitation and thus the rejection is improper.

As per the above arguments, the Examiner contends that Corcoran teaches this limitation in figures 1 and 6, column 3, lines 36-57 and column 6, lines 17-34. Applicant respectfully disagrees. The controller taught in Corcoran uses a first position signal at a first time and a second position signal at a second time to determine a change in elevation and thus in slope of the portion of a road between the first position and the second position. The controller in Applicant’s claim 9 determines the profile of the pavement in part through the distance between the first and second engaging members at one time. The profile is for that portion of pavement between the two ground engaging members.

Since Corcoran does not teach or disclose all of Applicant’s claim 9 limitations the rejection is improper and should be withdrawn. Claims 10, 11 and 13 depend from an allowable claim and thus their rejection is also improper.

Objections to Claims 5-8, 12 and 14-16

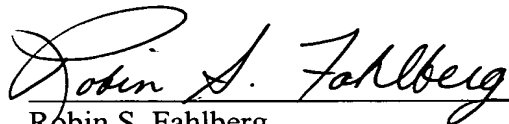
On page 4 of the Office Action of April 7, 2003, the Examiner objects to claims 5-8, 12 and 14-16 as being dependent upon a rejected base claim, but indicates they would be allowable if rewritten in independent form. Per the above arguments, Applicant

submits that the base claims that claims 5-8, 12 and 14-16 depend upon are allowable and respectfully requests the Examiner to withdraw his objections.

Conclusion

It is respectfully urged that the subject application is in condition for allowance and allowance of the application at issue is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, reading "Robin S. Fahlberg", written over a horizontal line.

Robin S. Fahlberg
Registration No. 50,323
Caterpillar Inc.

Telephone: (309) 675-5682
Facsimile: (309) 675-1236